

REMARKS

Claims 1-19 are pending in this application. In the Office Action, the Examiner rejected Claims 1-14 over the prior art, principally U.S. Patent 5,890,054 (Logsdon, et al.). The Examiner rejected Claims 16-19 under 35 U.S.C. §112 on the grounds that the specification is allegedly not enabling as to these claims, and rejected Claims 14 and 15 under 35 U.S.C. §112 as being indefinite. Claim 15 was not rejected over the prior art, and the Examiner indicated that this claim would be allowable if appropriately rewritten. It is noted that Claims 16-19 also were not rejected over the prior art

With respect to the rejections of the claims over the prior art, Claims 1-3, 7-10 and 13 were rejected under 35 U.S.C. §102 as being fully anticipated by Logsdon, et al; and Claims 6, 11 and 12 were rejected under 35 U.S.C. §103 as being obvious over Logsdon, et al. in view of known prior art. Claims 4 and 5 were rejected under 35 U.S.C. §103 as being unpatentable over Logsdon, et al. in view of U.S. Patent 4,977,569 (Johnson, et al.); and Claim 14 was rejected under 35 U.S.C. §103 as being unpatentable over Logsdon, et al. in view of U.S. Patent 5,396,429 (Hanchett).

Independent Claims 1, 8 and 16 are being amended to better define the subject matters of these claims, and Claim 16 is also being amended to address the rejection of Claims 16-19 under 35 U.S.C. §112. Claim 14 is being amended to overcome the rejection of the claim as being indefinite, and Claim 15 is being rewritten in independent form including the limitations of original Claim 8.

For the reasons set forth below, Claims 1-19 are all clear and definite, are fully enabled by the specification, and also patentably distinguish over the prior art and are allowable. The Examiner is, accordingly, asked to reconsider and to withdraw the rejection of

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Claims 1-3, 7-10 and 13 under 35 U.S.C §102, the rejections of Claims 4-6, 12 and 14 under 35 U.S.C. §103. The Examiner is also asked to reconsider and to withdraw the rejections of Claims 14-19 under 35 U.S.C. §112, and to allow Claims 1-19.

With respect to Claim 14, the Examiner rejected the claim as being indefinite because there is insufficient antecedent basis for the phrase "the short distances." Claim 14 is being amended to change "defining the short distances" to "determining distances between cars." The term "cars" is set forth earlier in claim 14, and this earlier occurrence provides the antecedent basis for the later use of the word in the claim.

It is believed that this overcomes any indefiniteness in Claim 14, and the Examiner is asked to reconsider and to withdraw the rejection of the Claim under 35 U.S.C. §112.

As mentioned above, this opportunity is being taken to rewrite Claim 15 in independent form including all of the limitations of original Claim 8. It is noted that, originally, Claim 15 was dependent from Claim 14, and the limitations of Claim 14 are not being included in Claim 15. As the Examiner has recognized, though, the use of transmission devices in the manner described in Claim 15 represents a novel, important, and non obvious advancement in the art, and thus Claim 15, as presented herewith, patentably distinguished over the prior art. Moreover, removing the dependency of Claim 15 from Claim 14 overcomes the previous rejection of Claim 15 under 35 U.S.C. §112.

For these reasons, the Examiner is requested to reconsider and to withdraw the rejection of Claim 15 under 35 U.S.C §112, and to allow this claim.

In rejecting Claims 16-19 under 35 U.S.C. §112, the Examiner argued that it is not known in the art how a single computer program can perform both steps described in Claim 16. While Applicants do not necessarily agree with the Examiner, Claim 16 is being amended

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to remove from the body of the claim the step of transmitting a cellular/radio signals from the source. Claim 16 is being amended, as discussed below, to describe further functions of the second mobile object; however, it is believed clear that one of ordinary skill in the art would be able to provide a single computer program to perform all the method steps described in Claim 16 relating to the second mobile object. It is noted that the feature that a source is provided for transmitting cellular/radio signals is described in the preamble of Claim 16, and thus this preamble provided the appropriate antecedent basis for references in Claim 16 and Claims 17-19 to those signals.

In view of the foregoing, one of ordinary skill in the art would be able to practice the invention defined by Claims 16-19, and the Examiner is thus requested to reconsider and to withdraw the rejection of Claims 16-19 under 35 U.S.C. §112.

With regard to the rejections of Claims 1-14 over the prior art, Applicants note that the references of record do not disclose or suggest an important feature of this invention that is now described in independent Claims 1 and 8. This feature is the use of the second mobile object to determine whether the transmission signal is marked for further transmission, and if so, then transmitting the signal further to the first mobile object.

To better understand this, Applicants believe that it may be helpful to discuss briefly this invention and the prior art.

This invention relates to a virtual cooperative network formed by mobile objects, and a goal of the invention is to provide a virtual network that allows cellular devices to transmit and receive signals from a source even though the devices are not able to receive the signals directly from the source. Generally, this is accomplished by using one or more other cellular device to relay the signal from the source to the ultimate recipient. In particular, in order for a

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first mobile object or device to receive the signal from the source, a second mobile object or device is used to relay the signal from the source to the former mobile object or device.

In a preferred implementation of the invention, the potential relaying object checks the signal from the source to determine if it is marked for further transmission, and, if the signal is so marked, the signal is then relayed.

Logsdon, et al. discloses a wireless communication network or system in which one device may be used to register a second device with the system backbone in case the latter device cannot communicate directly with that system backbone. Logsdon, et al. is directed primarily to an emergency mobile routing protocol, and, more specifically, to registering devices with the system backbone under emergency situations.

Thus, Logsdon, et al. does not disclose the feature of using the relaying device to check the signals from the source to determine if they are marked for further transmission. In fact, Logsdon, et al. does not disclose or suggest even marking the signals for this purpose. Instead, with the procedure disclosed in Logsdon, et al, it appears that once the remote device is registered, the relaying device simply transmits all signals from a specified source to that remote device.

Independent Claims 1, 8 and 11 clearly describe the above-discussed feature of the preferred embodiment of this invention. Specifically, Claims 1 and 11 both describe the steps of the second mobile object determining whether the signal is marked for further transmission; and if the signal is marked for further transmission, then using the transceiver of the second mobile object to transmit the signal to the first mobile object. Claim 8, which is directed to a network for transmitting cellular/radio signal, describes analogous apparatus limitations.

The above-discussed feature of the invention is of utility because it provides the network provider with the ability to offer the virtual network capability as an option to its subscribers. If a user subscribes to this option, the network encodes the signals so that they are relayed to the subscriber when the subscriber does not have direct access to the signal source.

The other references of record have been reviewed, and these other references, whether they are considered individually or in combination, also do not disclose or suggest this feature.

For example, Johnson, et al. was cited for its disclosure of giving priority to emergency signals; however, this reference does not teach or suggest the principal of using a mobile object, which is relaying signals from a source to another mobile object, to also check the signal to determine if it is marked for further transmission.

Hanchett was applied only against Claim 14, and was cited for its disclosure of a procedure for monitoring traffic conditions. Hanchett, though, does not address the problem of mobile communication devices moving out of range of a source signal, and thus does not suggest any solution for that problem.

Because of the above-discussed differences between Claims 1, 8 and 16 and the prior art, and because of the advantages associated with those differences, it cannot be said that any of these claims is anticipated by or is obvious in view of the prior art. Accordingly, Claims 1, 8 and 16 patentably distinguish over the prior art and are allowable. Claims 2-7 are dependent from, and are allowable with, Claim 1. Similarly, Claims 9-14 are dependent from Claim 8 and are allowable therewith; and Claims 17-19 are dependent from, and are allowable with,

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Claim 16. The Examiner is, consequently, requested to reconsider and to withdraw the rejections of Claims 1-3, 7-10 and 13 under 35 U.S.C. §102 and the rejections of Claims 4-6, 11, 12 and 14 under 35 U.S.C. §103, and to allow Claims 1-14 and 16-19.

For the reasons discussed above, the Examiner is asked to reconsider and to withdraw the rejection of Claims 14 and 15 under 35 U.S.C. §112 as being indefinite, and the rejection of Claims 16-19 under 35 U.S.C. §112 as not being enabled. The Examiner is also requested to reconsider and to withdraw the rejections of Claims 1-14 under 35 U.S.C. §§102 and 103, and to allow Claims 1-19. If the Examiner believes that a telephone conference with Applicants' Attorneys would be advantageous to the disposition of this case, the Examiner is asked to telephone the undersigned.

Respectfully submitted,

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